# DAKAR

## DUAL SPORT KITS

**CRF450 DUAL SPORT KIT INSTALLATION INSTRUCTIONS**

ELECTREX
*USA*

# Kit Contents

## Inspect Your Kit

Your kit will include the following items

**A. CRF450 Instructions and Wiring Diagrams**
Read through the entire instruction manual before starting.

**B. Dakar Headlight Assembly**

**C. Handlebar Turn Switch**

**D. Horn**

**E. Tail Light and Mounting Screws**

**F. Universal Hardware Bag (Contents)**

- **-Turn Signals (2)**
- **-Brake Light Switches (2)**
- **-Cable Ties**
- **-Wiring Diagram Label**
- **-Round Plastic Signal Alignment Wedges**

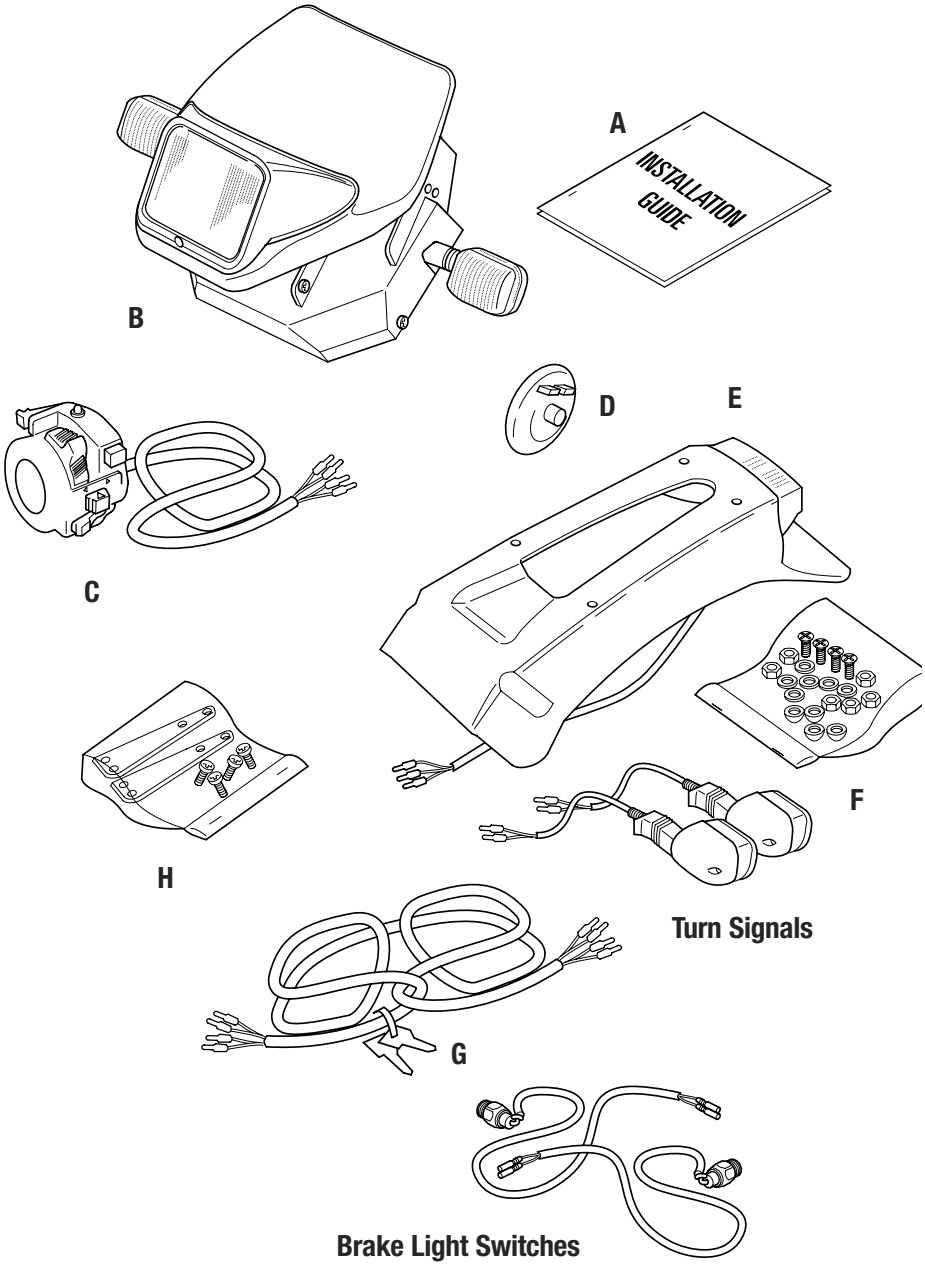
**G. Main Wiring Harness**

- **-Note: Ignition Keys Zip Tied to Harness**

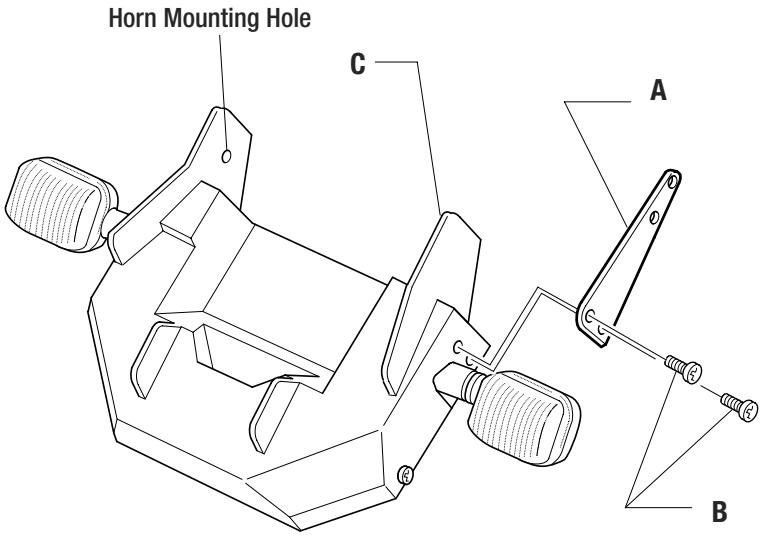
**H. Mounting Kit Hardware Bag**

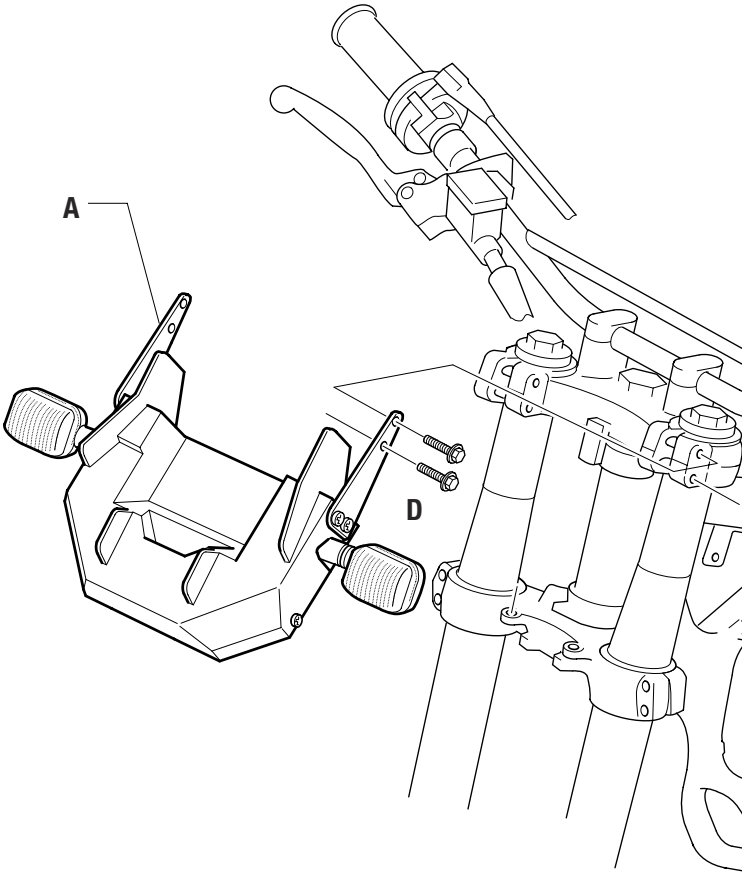
- **-Triple Clamp Mounting Brackets**
- **-Kit Specific Pieces**

*Note: Please take a moment to become familiar with the contents of the kit. Due to slight variances between motorcycle models, there may be differences in the instruction manual drawings and the actual parts. The basic installation procedure remains the same.*



# HEADLIGHT UNIT SUB-ASSEMBLY




*Note: Headlight assembly omitted for clarity.*

## Getting Started

Remove and retain four (4) retaining screws, holding the headlight numberplate to the Dakar unit. Then, unplug the main wiring harness, turn switch wiring harness, headlight and horn wiring connectors from the Dakar unit.

## Attach The Horn

The horn may aread be installed on your kit, if not, the horn has a nut with a washer screwed on the back. Remove and retain the nut and washer. Locate the horn's threaded stud on the outside of the Dakar unit and into the horn mounting hole in the Dakar unit. Fasten with previouslt removed washer and nut. (Be sure to tighten securely without stripping)

## Mounting Brackets

Attach headlight mounting brackets ( A ) with two screws ( B ) on each side. Tighten screws securely into the Dakar headlight unit ( C ) without stripping.

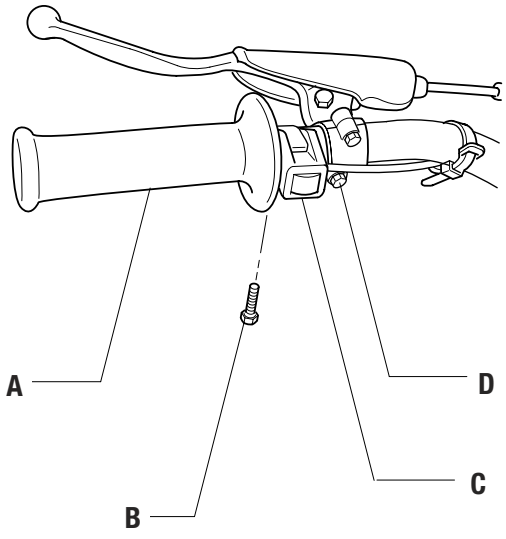
Note: Bracket shown in illustration may differ from pieces in your kit. However, the installation will remain the same.

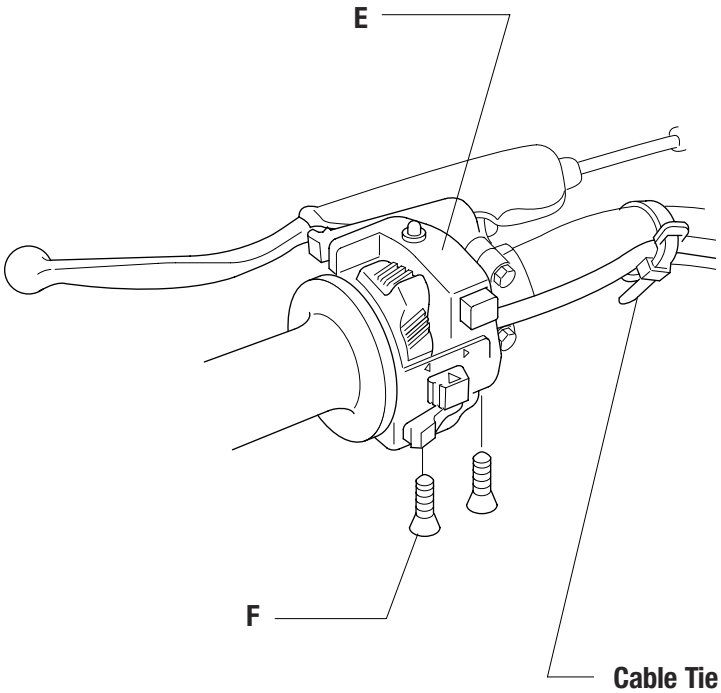
## Installing The Dakar Headlight Unit

### Step 1

Remove and retain existing top triple clamp bolts ( D ). Carefully slide brackets into position and fasten with existing bolts as shown.

# Turn Switch Installation




## Remove Existing Kill Switch

**Step 1**
Using a small phillips head screwdriver, loosen the locking screw ( B ) on the kill switch ( C ). Remove any cable ties and unplug kill switch from existing wiring.

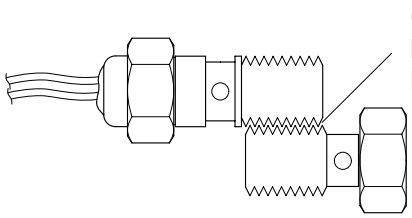
**Step 2**
Loosen clutch cable perch ( D ) and move inboard about 1/2 inch.

## Install Turn Switch

**Step 1**
Open and wrap the new turn switch ( E ) around handlebar and securely fasten with two screws ( F ) as shown.

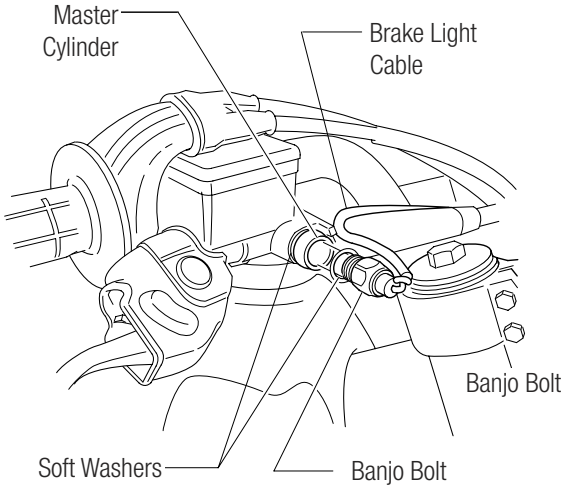
**Step 2**
Route turn switch wiring down and along handle bar behind Dakar headlight unit and in through frame cable guide. Secure switch wiring to handlebars with one cable tie. For more information, please refer to the Cable Routing Diagram.

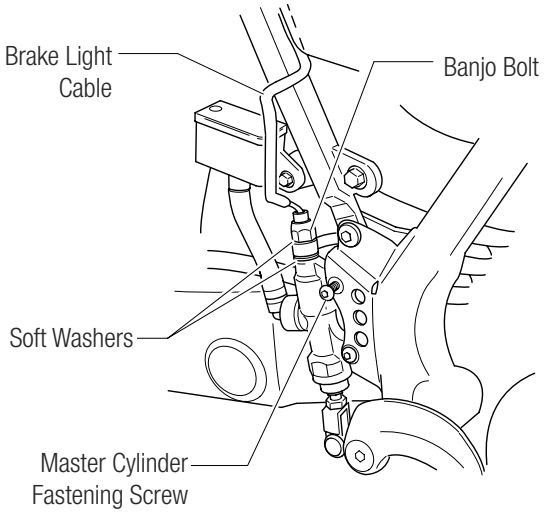
# Brake Light Switches




**WARNING: Check the thread pitch on your banjo bolts**

*Make sure the thread pitch on your stock banjo bolts match the replacement versions provided in the kit. More than likley they will match. Some manufactures have changed the stock design requirement which is why it necessary to check. If your parts do not match up, stop the installation and give us a call. We'll send replacement parts to you!*




## Front Brake Light

### WARNING

*Bleed front and rear brakes according to instructions provided in your owners or service manual. This must be performed in order for proper brake operation. Failure to do so may result in brake failure*

**Step 1**
Place a drop cloth or rag under the front brake and bike to catch any fluids. Loosen and retain banjo bolt on master cylinder.

**Step 2**
Insert brake light switch into position and fasten with banjo bolt on top of soft washer, hydraulic line and second soft washer. Securely fasten banjo bolt without stripping.

**Step 3**
Route the front brake light switch wiring along the lower portion of the handlebar towards the center of the triple clamps. Fasten wiring to the handlebar with a cable tie.

## Brake Pedal Light

**Step 1**
Place a drop cloth or rag under the rear brake and bike to catch any brake fluid. Remove the screws and guard providing access to the rear brake master cylinder.

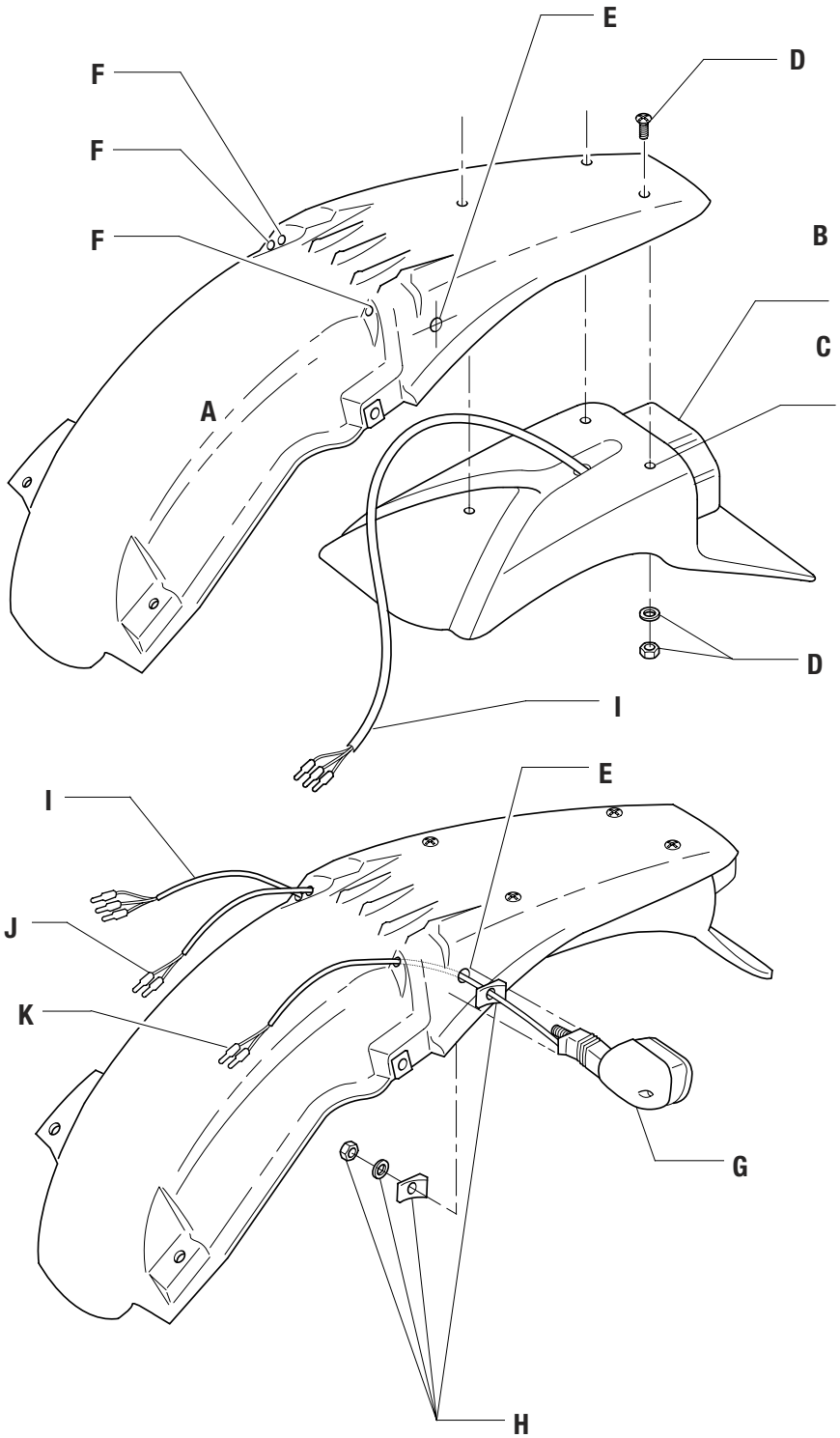
You must temporarily reinstall the screws that attach the master cylinder to the frame to prevent damage to the master cylinder or Banjo bolt threads. After the master cylinder is secure, carefully remove the existing banjo bolt. Remove and retain the mounting screws.

Note: Some bikes allow access to the master cylinder without removing a cover or guard.

**Step 2**
Insert brake light switch into position and fasten with banjo bolt on top of soft washer, hydraulic line and second soft washer. Securely fasten banjo bolt without stripping. Reinstall guard with screws

**Step 3**
Route the rear brake light switch wiring up the sub-frame spar and following behind the airbox up towards the back of the frame. The wiring should meet up next to the main wiring harness tail light and turn signal connection point.

# Taillight and Turn Signals




## Remove Existing Parts

Remove your existing seat, front number plate, radiator covers, fuel tank, side number plates and rear fender. Please refer to your owners manual for detailed dis-assembly instructions for each item.

## Taillight Assembly

Place the rear fender ( A ) upside down on a clean work surface and position the rear tail light ( B ) on the inside of the fender. Note: the tail light should rest slightly under the rear edge of the fender.

Using the rear tail light's four mounting holes ( C ) as guides, trace around each hole with a felt tip marker on the underside of the fender creating drill hole locations. Remove the tail light and drill 1/4 inch holes. Reposition the tail light, and fasten with supplied screws, washers and nuts ( D ) as shown.

## Turn Signal Mounting

### Step 1

Position the rear turn signals by visually lining up the signals ( G ) behind the rear seat, when its attached to the sub-frame. Care should be observed to insure signals do not interfere with the rear silencer. The signals must mount free and clear of exhaust heat in order to prevent damage to the signal.

Once you have found a suitable location for the signal mounting hole ( E ), mark and drill one 3/8 inch hole through each side.

### Step 2

Drill a second hole ( F ) on each fender side, allowing the signal wiring to pass through underneath the rear seat. Note: On some bikes, signal wiring holes are already available.

### Step 3

Feed the tail light wiring ( I ) through the right side hole and then the turn signal wiring ( J ). Secure turn signal with supplied alignment wedges, washer and nut ( H ). Attach second turn signal following same procedure and complete by reinstalling rear fender on bike.

*Note: There may be differences in the instruction manual drawings and the actual parts.*

# Taillight and Turn Signal Connection

## Cable Routing Harness Location

Feed the main wiring harness through the frame cable loop behind the triple clamps. For more information, please refer to cable routing diagram. For reference, stick the wiring connection decal on the rear fender, below where the seat will cover it up.

## Taillight Connection

Connect the WHITE tail light male to the GRAY female connector. Connect the BROWN tail light male ground to the BLACK female connector as shown.

## Turn Signal Connections

Connect both BLACK tail turn signal grounds into the dual BLACK female ground connector. Connect the ORANGE female into the BLACK male (right turn signal) connector, and the PINK female, into the BLACK male, (left turn signal) connector.

## Brake Switch Connection

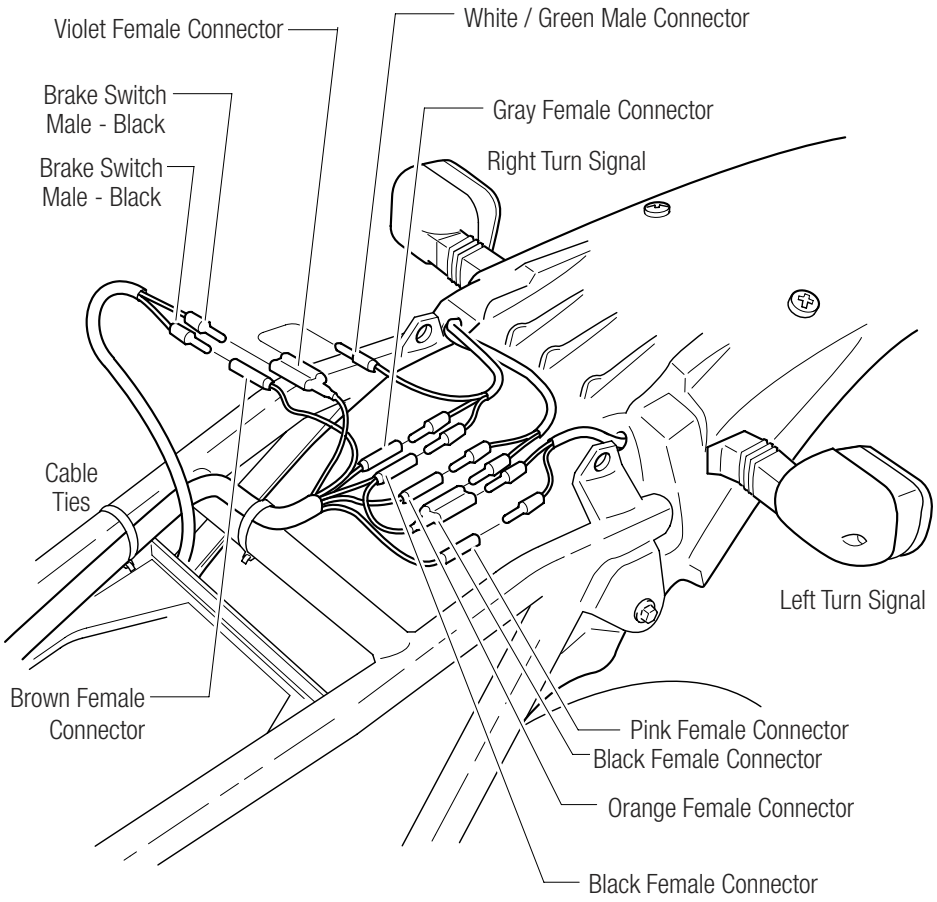
Connect one of the BLACK brake switch male into the BROWN female connector and the second BLACK brake switch male into the dual VIOLET connector.

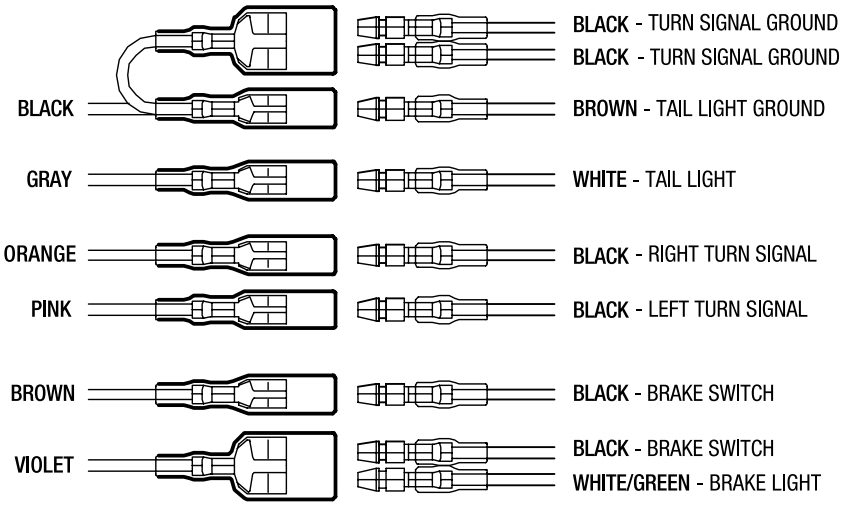
## Note

Be sure to carefully and fully seat the connectors into position.

## Secure Cable Ties

Use a few cable ties along the sub frame to hold the harness into position. Make sure that you secure the harness to frame areas that will not bind or crimp the harness.



# Headlight Wiring

## IMPORTANT

We have gone to great lengths to ensure the seamless integration of each bike model and wiring harness. Please take a moment to become familiar with the specific wiring diagram of your make and model of motorcycle.

### Main Wiring Harness Connection

Access the Dakar wiring located behind the headlight, by loosening two lower screws and remove two top inboard screws. This is required in order to provide enough freeplay to tilt the headlight forward for harness connections. Please refer to headlight adjustment for more information.

From the main wiring harness, connect the VIOLET and BROWN female connectors into the front brake light switch male connectors.

Plug-in main wiring harness (right side) connector. Be sure to fully seat the connection. You will hear the connector “click” into position on both the top and bottom.

### Horn Connection

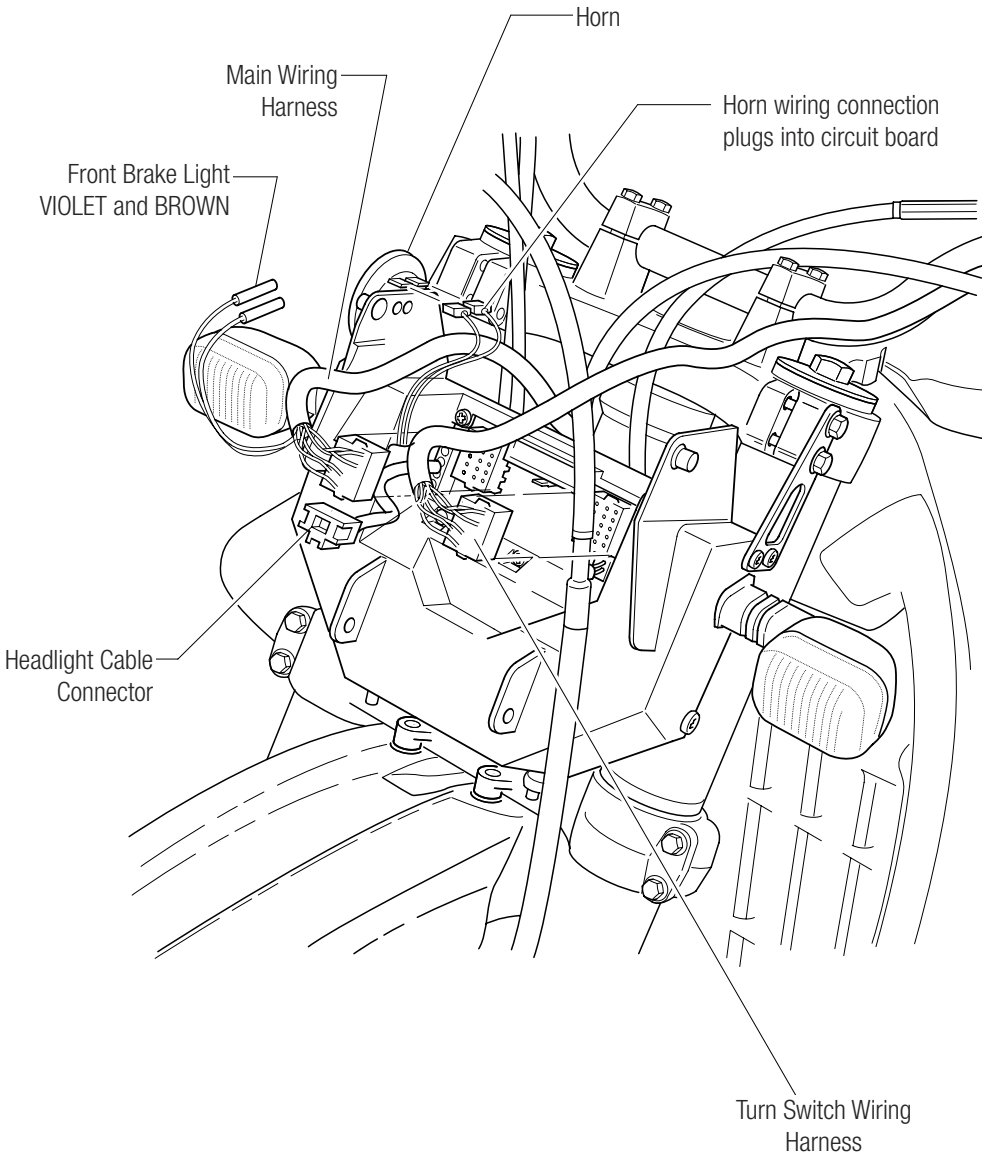
From the turn switch wiring harness, connect the PINK and BLUE leads, into the horn spade connectors.

### Turn Switch Wiring Connection

Plug-in main turn switch wiring harness connector into the right side block connector on the Dakar unit. Be sure to fully seat the connection. You will hear the connector click into position on both the top and bottom.

### Main Wiring Harness Connection

Plug-in main Main wiring harness connector into the left side block connector on the Dakar unit. Be sure to fully seat the connection. You will hear the connector click into position on both the top and bottom.


Horn
Main Wiring Harness
Horn wiring connection plugs into circuit board
Front Brake Light VIOLET and BROWN
Headlight Cable Connector
Turn Switch Wiring Harness

## Read these instructions completely. The ESL950 is designed as a straight plug-in part and includes extra lighting connections to the Dakar kit.

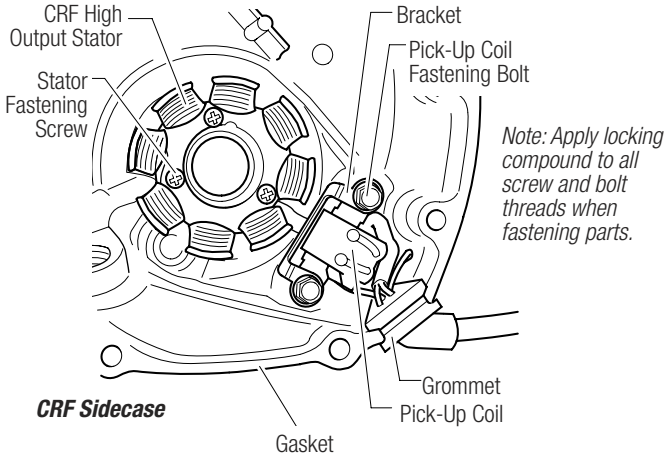
**Step 1**
Take the ignition cover off. **Are The Replacement Parts Similar?** Compare the replacement part to the original. The replacement part should match, including the mounting hole locations. If not: Double check the application listing with your bike.

**Step 2**
Unscrew the stock stator and pick-up coil from the case. Pull grommet and wiring free and clear from case. Retain all mounting screws, bolts and brackets for installing new high output stator.

**Step 3 - Connect the stator wiring**
Connect the Pick-up coil GREEN and BLUE/YELLOW leads into the GREEN and BLUE/YELLOW leads in the main wiring harness.

| New Stator | Bike Wiring Harness |
|---|---|
| BLUE | WHITE |
| WHITE | BLUE |

NOTE: 2 YELLOW Wires are for connecting to the Dakar Kit




***CRF Sidecase***

## Lighting Options

**Dual Sport Kit Lighting:**
Both YELLOW wires are for connecting to a Dual Sport Kit

## Finishing up the installation

**Step 4 - Reinstall the new stator**
Place the new stator and pick-up coil into position in the case and fasten with existing brackets and **existing** screws as shown . *If your stator came with replacement screws, discard them.* Be sure to use a locking compound on the threads of all mounting screws. Insert the grommet into position on the side case. Then install a new gasket onto the side case and install the side case to the engine using existing screws. Torque screws as specified in your service manual.

## Troubleshooting

**Engine will not start:** Sometimes the source coil wires are reversed. Swap the connections, resolder the wires and the engine should start. If the engine still does not start, and ***before*** *calling technical support at ElectroSport*, preform a few basic tests: 1) Re-check the connections. Make sure you carefully solder the connections. Twisting wires together or taping wires will cause engine inoperability. 2) Check the engine for spark and 3) Is fresh fuel in the gas tank? If you still cannot get the engine to start, have all your testing information ready for a technician prior to calling.

# WIRING HARNESS - CONNECTIONS

## Ground Connections

Connect the main wiring harness BLACK ground to the existing ignition coil ground location.

## Kill Switch Connection

Connect the main wiring harness BLACK/WHITE female kill switch wire to the existing CDI kill switch male connector.

*NOTE: Your motorcycle CDI kill switch should be a black and white wire. If not, please refer to your owners manual.*

## Stator Connection

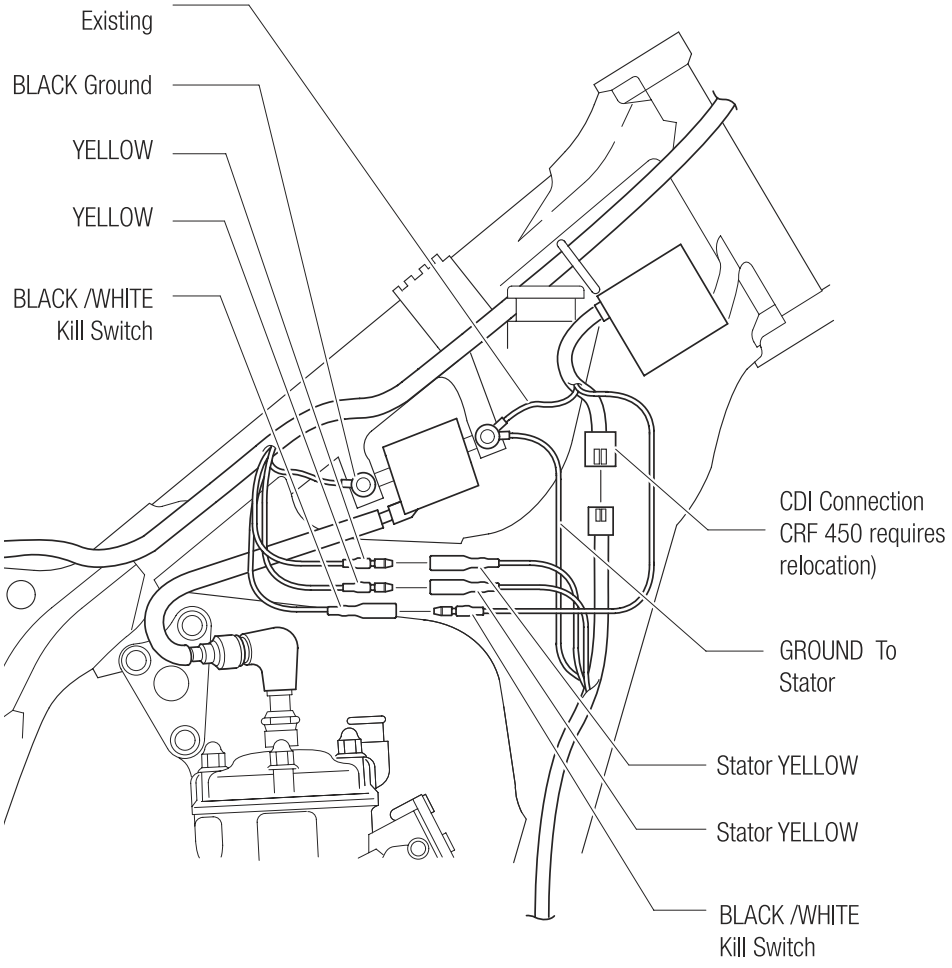
*IMPORTANT: You must install a high power output stator on your motorcycle for the power generation necessary for the Dakar Dual Sport Kit. Failure to do so will result in operational failure of the kit.*

**Step 1**
Connect both YELLOW male connectors from the main wiring harness into the high power stator YELLOW female connectors.

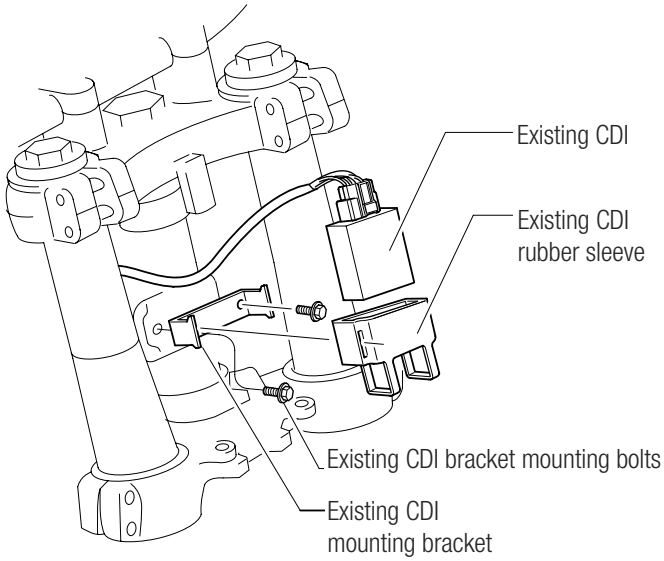
**Step 2**
Connect the stator BLACK ground into the existing ignition coil ground location.

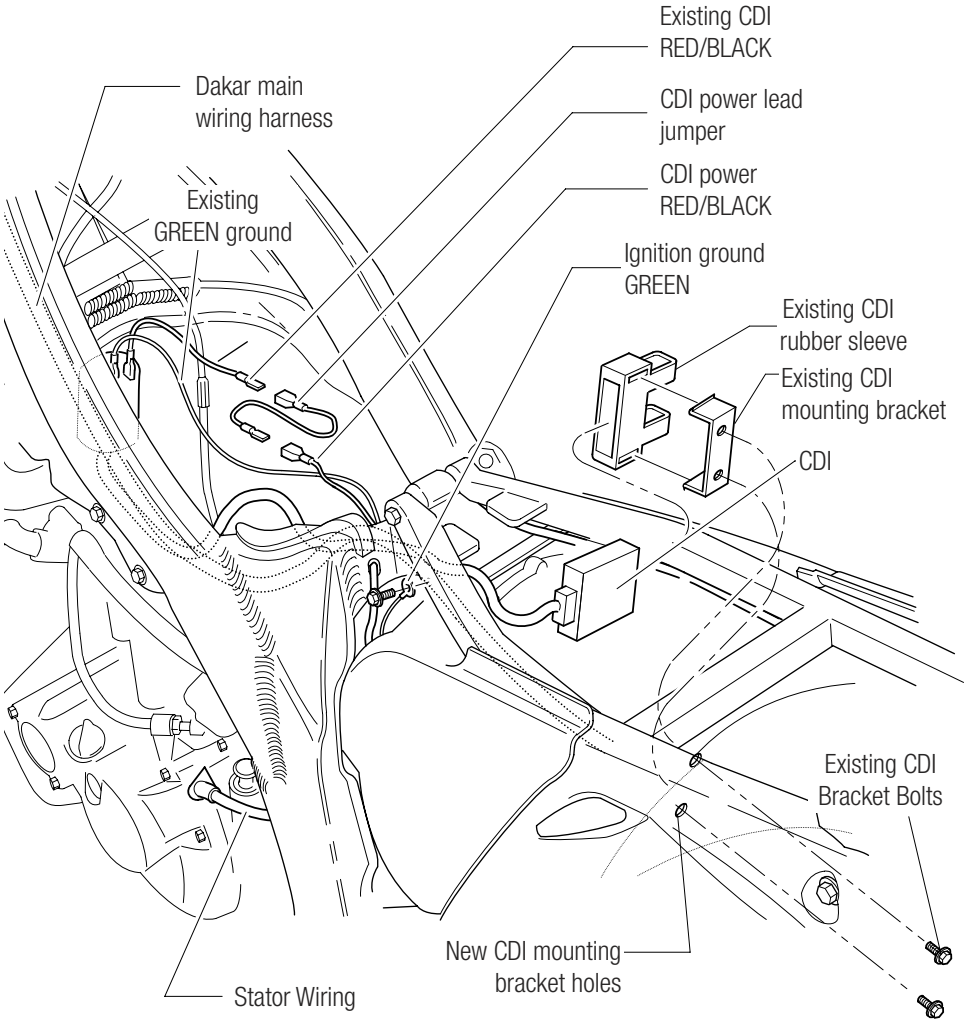
**Step 3**
Connect the stator main plug connector into the CDI plug connector. Make sure that the connection is firmly seated.

**MX Style Main Wiring Harness**



# CDI Relocation Option 1




## Remove existing CDI

Carefully remove existing bolts, CDI unit, and CDI mounting bracket from frame. Once the CDI is free, unplug the main connection from the CDI unit.

## Locate the mounting bracket

There are two options for relocation of the CDI mounting bracket. One is inside of the airbox or option 2 is shown on the next page, near the radiator

**Step 1**
Start by taking the mounting bracket and locate inside the airbox, so that the CDI will attach below the top of the airbox, with the main connection plug facing horizontal towards the left side of the bike.

Once a location has been selected, use the mounting bracket as a guide and mark the two hold locations. Note: These are the holes that previously were used to attach the bracket to the steering tube on the front of the frame.

**Step 2**
From the inside of the rear fender, attach two bolts, securing the bracket to the inside of the airbox. Press the rubber CDI sleeve into the tabs on the bracket until the tabs poke through the rubber slots on each side. Double check the rubber sleeve making sure it is firmly seated to the bracket.

## Route the CDI wire

**Step 1**
Feed the CDI wire through the left side sub frame, next to the top shock mount and back along the side of the airbox ending up with the connection plug locating into the CDI as shown.

**Step 2**
Insert the CDI into the rubber sleeve.

## Secure the ground and power leads

**Step 1**
Route the ignition GREEN ground lead up the left side under the subframe and in front of the airbox. Drill a small pilot hole into the subframe and attach the ground wire as shown.

**Step 2**
Connect the RED/BLACK ignition power jumper wire to the Dakar main wiring harness and connect the RED/BLACK CDI power lead to the ignition coil.

# CDI Relocation Option 2

## CDI Mounting Option 2

After removing the CDI you will need to remove the mounting bracket from the headtube on the frame.

## Fasten an ADEL style U-bracket

Take one ADEL bracket and wrap it around the frame spar that is located behind the radiator.

Fasten one bolt on the top and bottom sndwiching the ADEL bracket around the frame spar and into the existing CDI mounting bracket.

ADEL clampa are available at most hareware stores, such as Home Depot, Lowes, or ACE.

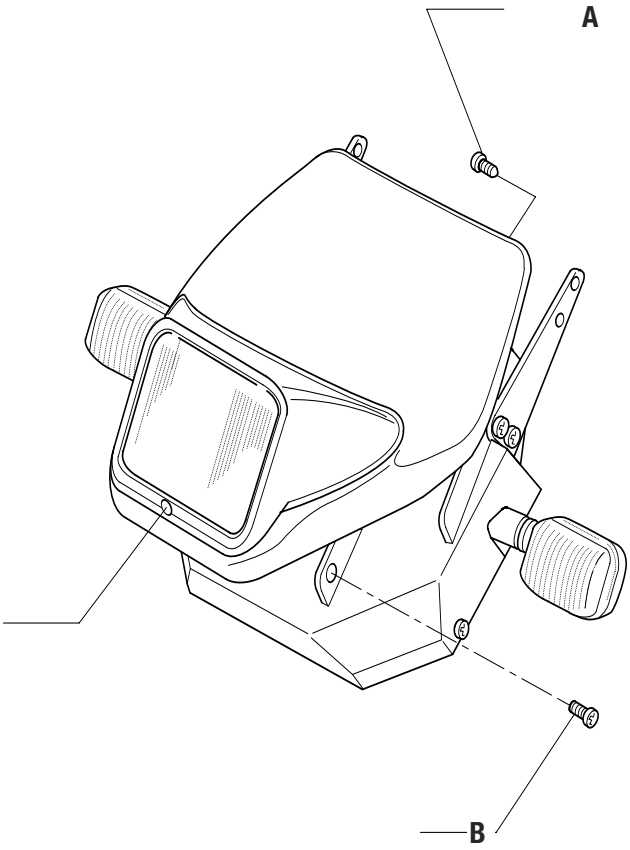
# HEADLIGHT BEAM ANGLE ADJUSTMENT

## Attaching The Headlight

After the wiring harness has been securely fastened and the complete system has been tested, you can now tilt the top of the headlight into the riding position and fasten the two inboard screws ( A ) as shown. Complete the assembly by tightening the lower two screws ( B ).

## Accessing the wiring behind the headlight

When accessing the Dakar wiring located behind the headlight, you must loosen the two lower screws ( B ) and remove the two top screws ( A ). This is required in order to provide enough clearance while tilting the headlight forward.



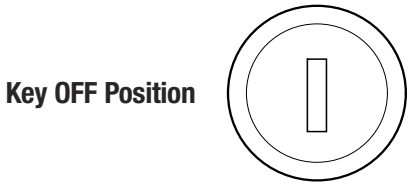

## BEFORE RIDING YOUR BIKE

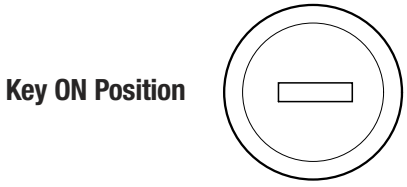
### Ignition Key

The Dakar Dual Sport Kit features a security key designed for theft prevention and unauthorized operation of the motorcycle. To start the motorcycle, rotate the key to the ON position as shown.

> *IMPORTANT: Do not leave the headlight on without the engine running. It could cause damage to the battery. We also suggest turning up the idle speed slightly to increase system voltage while the engine is at idle.*

The key is designed only as a means to disable operation of the motorcycle. Use the turn signal kill switch to shut the motorcycle off. Leaving the key in the ON position will drain the battery, so be sure to turn the switch to the OFF position while leaving the bike unattended. Now start your bike up and go show your friends!



## Overview

Vehicle registration policies in most states typically allow conversion of an off-road only title into a street title or in some states a designated "Dual Registration." To register a dirt bike for street use, it must be equipped with the necessary lighting and other equipment required by your state's vehicle code.

### Every state requires what is called “The Federal Minimum Requirement” which consists of:

- Headlight with a high and low beam
- Headlight indicator light visible to the operator to show when the high beam is operating
- Horn - Some states mandate an electric horn
- Battery powered taillight and brake light which must operate for 20 minutes on battery power alone
- Rear view mirror
- Turn signals for motorcycles manufactured after 1/1/73 (Most States)
- Some states require speedometers and odometer’s
- Tires should be DOT approved
- Lights should be DOT approved
- Fuel tank should be DOT approved*

* *Even though the Federal Motor Vehicle Safety Standard specifies steel gas tanks for street motorcycles, most states will not enforce this for converted dirt bikes*

### Registration procedures vary from state to state but typically involve:

- Signing two ”Statement of facts” certifying that your bike meets state/federal standards.
- Bringing the bike to the DMV or (AAA Insurance Office) for an inspection for proper lighting
- Once the paper work and inspection are complete the final step is to exchange your off-road title for a street title

### Exchanging your title

Most states have a "Dual Registration Form" You should be able to download this form from your states DMV over the internet or filling it out at your DMV office. Then pay the transfer fee and obtain your registration, put the plate on your bike and go show your friends!

### Nothing Happens When You Turn the Power Switch On

Possible Causes

- Fuse is blown. Check for bare wire or terminal shorting against the frame or another wire.
- Multi-pin connector not properly connected to the circuit board.
- Poor battery connection. Make sure the connectors are fully seated.
- Battery is flat. Measure voltage with voltmeter, or connect a 12 volt light across it. A fully charged battery will measure between 12.9 and 13.2 volts.
- Poor connection at the blue wire junction above the shock.

### Headlight does not work on high beam or low beam:

Possible Causes

- Check the bulb. Usually one of the bulb filaments is bad, so replacing it will fix the problem. Make sure you replace the bulb with the exact same wattage.
- The handlebar switch is dirty inside. Clean it out with some WD40.

### Headlight is dim at idle:

Possible Causes

- Increase the idle speed a little. Dual sport setups work a lot better is the idle speed is a bit "on the high side". This is due to the design of most of the lighting /charging coils, which really start putting out power at around 1200 rpm.
- Battery is not charged. Charge battery using a standard battery charger. Connect the black (negative) lead from the charger to a good frame ground, and connect the red (positive) lead from the charger to the blue lead that connects to the horn. (just slide the blue connector sleeve back, and connect the charger up to the exposed terminal) You do not need to disconnect the horn. Turn key switch to “ON” Position.
- Check bulb wattage. Certain kits come with a lower wattage bulb than a standard H4 bulb. Electrex has all bulbs in stock.

### Taillight does not work:

Possible Causes

- Check the bulb. Due to vibration the bulb could have gone out. Check the connections in the bulb holder as well, water could oxidize the contacts, preventing the bulb from coming on.
- Check the connections, especially the ground under the seat. You'll find a gray wire (taillight positive), a black wire (taillight and brakelight ground) and a violet wire (=purple, brake light positive). Check these connections carefully.

**Brake light stays on:**

Possible Causes

- unplug the brake light switches one by one. If one of the switches is bad, it will close its contacts and leave the brake light on. The brake light switch that makes the brake light turn off as soon as you unplug it, is bad.

**Brake light does not work:**

Possible Causes

- Check the bulb. Due to vibration the bulb could have gone out. Check the connections in the bulb holder as well, water could oxidize the contacts, preventing the bulb from coming on.
- Check the connections, especially the ground under the seat. You'll find a gray wire (taillight positive), a black wire (taillight and brakelight ground) and a violet wire (=purple, brake light positive). Check these connections carefully.

**Blinkers don't work:**

Possible Causes

- Battery is not charged. Charge battery using a standard battery charger. Connect the black (negative) lead from the charger to a good frame ground, and connect the red (positive) lead from the charger to the blue lead that connects to the horn. (just slide the blue connector sleeve back, and connect the charger up to the exposed terminal) You do not need to disconnect the horn. Turn key switch to “ON” Position.
- flasher relay is bad. Replace with new one.

**Blinkers don't work at idle, or flash intermittently:**

Possible Causes

- Battery is not charged. Charge battery using a standard battery charger. Connect the black (negative) lead from the charger to a good frame ground, and connect the red (positive) lead from the charger to the blue lead that connects to the horn. (just slide the blue connector sleeve back, and connect the charger up to the exposed terminal) You do not need to disconnect the horn. Turn key switch to “ON” Position.
- increase the idle speed a little. Dual sport setups work a lot better is the idle speed is a bit "on the high side". This is due to the design of most of the lighting /charging coils, which really start putting out power at around 1200 rpm.

**Horn doesn't work:**

Possible Causes

- Battery is not charged. Charge battery using a standard battery charger. Connect the black (negative) lead from the charger to a good frame ground, and connect the red (positive) lead from the charger to the blue lead that connects to the horn. (just slide the blue connector sleeve back, and connect the charger up to the exposed terminal) You do not need to disconnect the horn. Turn key switch to “ON” Position.
- Adjust small set screw on the back side of the horn. Turn it both ways until you get a nice loud "honk'

### Lost key while riding:

Possible Causes

- The Dakar setup will perform fine, but you'll have to top up the battery regularly (weekly) to prevent it from going flat. Call ElectroSport for a replacement.

### Kill button does not work:

Possible Causes

- Ensure that the black/white wire of the wiring harness is plugged in correctly.
- If the kill button does not work, but turning the key switch does kill the engine, you have a dirty handlebar switch. Spray inside it with WD40.

### Technical Support Contact Information

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